

ABSTRACT OF THE DISCLOSURE

A rotary friction welding machine and method is disclosed. The rotary friction welding machine has a first rotating spindle and a second non-rotating spindle, where a first component of the components being connected to one another is positioned on the first spindle and a second component of the components being connected to one another is positioned on the second spindle. Several flywheel mass bodies are positioned on the rotary friction welding machine, where the flywheel mass bodies cooperate with the first rotating spindle such that at least one of these flywheel mass bodies can be brought out of operating engagement or into operating engagement with the first rotating spindle, where both the flywheel mass bodies that are in operating engagement with the first rotating spindle and the flywheel mass bodies that are out of operating engagement with the first rotating spindle are positioned on the rotary friction welding machine.